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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,299	10/22/2003	Paul David Agnello	YOR919990281UUS3 (12795AB)	2258
23389	7590	11/29/2005	EXAMINER	
SCULLY SCOTT MURPHY & PRESSER, PC 400 GARDEN CITY PLAZA SUITE 300 GARDEN CITY, NY 11530			HAFIZ, MURSALIN B	
			ART UNIT	PAPER NUMBER
			2814	

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

HA

**Office Action Summary**

Application No.

10/691,299

Applicant(s)

AGNELLO ET AL.

Examiner

Mursalin B. Hafiz

Art Unit

2814

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 22-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/22/03</u>  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 22-31 are rejected under 35 U.S.C. 102(a) as being anticipated by the article "Formation and Properties of ternary silicide ( $\text{Co}_x\text{Ni}_{1-x}$ )Si thin films."

Regarding claim 22, the article discloses an electrical contact to a region of a silicon-containing substrate comprising;

a substrate having an exposed region of a silicon-containing semiconductor material, said silicon-containing semiconductor material being doped with an impurity to provide carriers of holes, electrons or both holes and electrons [Experimental procedures line 1-2]; and

a first layer of  $\text{CoXSi}_2$ , wherein X is an alloying additive [Ni], said alloying additive being present in said first layer in an amount of from about 0.01 to about 50 atomic % [Fig. 5, electrical property line 15-18, less than 66%],

said first layer and said silicon-containing semiconductor material forming an interface having a predetermined roughness and being substantially free of Co silicide spikes descending into said silicon-containing semiconductor material [Fig. 7, silicide process line 18-22].

Regarding claim 23, the article discloses alloying additive selected from the group consisting of C, Al, Si, Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Ge, Y, Zr, Nb, Mo, Ru, Rh, Pd, In, Sn, La, Hf, Ta, W, Re, Ir, Pt, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu and mixture thereof [the alloying additive is Ni].

Regarding claim 24, the article discloses alloying additive C, Al, Si, Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Ge, Y, Zr, Nb, Mo, Ru, Rh, Pd, In, Sn, La, Hf, Ta, W, Re, Ir or Pt is [the alloying additive is Ni].

Regarding claim 25, the article discloses alloying additive Si, Ti, V, Cl, Ni, Ge, Nb, Rh, Ta, Re or Ir [the alloying additive is Ni].

Regarding claim 26, the article discloses alloying additive is present in said first layer in an amount of from about 0.1 to about 20 atomic % [Fig. 5, electrical property line 15-18, less than 66%].

Regarding claim 27, the article discloses an electrical contact to a region of a silicon-containing substrate comprising;

a substrate having an exposed region of a silicon-containing semiconductor material, said silicon-containing semiconductor material being doped with an impurity to provide carriers of holes, electrons or both holes and electrons [Experimental procedures line 1-2]; and

a first layer of  $\text{NiXSi}_2$ , wherein X is an alloying additive [Ni], said alloying additive being present in said first layer in an amount of from about 0.01 to about 50 atomic % [Fig. 5],

said first layer and said silicon-containing semiconductor material forming an interface having a predetermined roughness and being substantially free of Co silicide spikes descending into said silicon-containing semiconductor material [Fig. 7, salicide process line 18-22].

Regarding claim 23, the article discloses alloying additive selected from the group consisting of C, Al, Si, Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Ge, Y, Zr, Nb, Mo, Ru, Rh, Pd, In, Sn, La, Hf, Ta, W, Re, Ir, Pt, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu and mixture thereof [the alloying additive is Co].

Regarding claim 24, the article discloses alloying additive C, Al, Si, Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Ge, Y, Zr, Nb, Mo, Ru, Rh, Pd, In, Sn, La, Hf, Ta, W, Re, Ir or Pt is [the alloying additive is Co].

Regarding claim 25, the article discloses alloying additive Si, Ti, V, Cr, Ni, Ge, Nb, Rh, Ta, Re or Ir [the alloying additive is Ni].

Regarding claim 26, the article discloses alloying additive is present in said first layer in an amount of from about 0.1 to about 20 atomic % [Fig. 5].

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mursalin B. Hafiz whose telephone number is 571-272-8604. The examiner can normally be reached on m-f 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on 571-272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mbh

  
**GEORGE ECKERT**  
**PRIMARY EXAMINER**